ELECTION TECHNOLOGY COUNCIL

Working Together for Secure and Accurate Elections

Testimony of David Beirne, Executive Director of the Election Technology Council to the United States Election Assistance Commission

November 13, 2007

Good morning, Chairwoman Davidson and EAC Commissioners:

My name is David Beirne and I am Executive Director of the Election Technology Council. The Election Technology Council (ETC) was established in 2003 under the umbrella of the Information Technology Association of America (ITAA). In 2007, the ETC filed to structure itself as an independent 501(c)6 trade association. The ETC consists of companies which offer voting system technology hardware products, software, and services to support the electoral process and share an interest in addressing the common issues facing our industry. Current members of the ETC are Election Systems & Software, Hart InterCivic, Premier Election Solutions, and Sequoia Voting Systems. Any company in the election systems marketplace may apply for Membership in the ETC.

On behalf of the ETC and its members, I would like to thank the Election Assistance Commission (EAC) for the opportunity to speak to you regarding our initial assessment of the next iteration of the Voluntary Voting System Guidelines (VVSG). As you know, the members of the Election Technology Council have enormous interest in the conduct and outcome of the voting system certification process. After all, the ETC provides voting solutions for over 90% of the United States population and employs several hundred dedicated employees who share in our dedication and support for the American electoral process.

On a personal note, my ten years of professional experience in the field of election administration is from the perspective of a former local election official who has worked with and conducted elections using punch card, optical scan, and direct recording electronic technology first-hand. So in my role as Executive Director of the ETC, I intend to bring my experience as an election official and its associated challenges together with the perspective of a voting system provider to serve as a resource for both the Election Assistance Commission and the entire election community.

Before I provide my initial comments on the proposed draft of the VVSG, let me first applaud the Election Assistance Commission for its commitment to serving as an information resource and the successes you have had thus far. The ETC and its members have always recognized and respected the difficult task that the EAC finds itself in especially when it comes to the adoption and administration of the voting system certification process.

The 2007 Voluntary Voting System Guidelines

As we move forward into the public comment phase for the new VVSG, the ETC will identify those areas of the VVSG that are of concern from an industry standpoint and will leave the individual voting system manufacturers to provide additional comments as they pertain to their individual voting system platforms.

Although I have not completed a thorough review of the newest draft of the VVSG and all of its associated sections, those sections that I have reviewed raise important questions.

What is the overall intent of the newest draft?

The answer to this question will provide tremendous value as we move forward with the public comment period. The 2005 VVSG was clearly intended to strengthen the 2002 standards and provide for a clear blueprint for the performance of voting systems. The 2005 VVSG will have its own challenges, but these will likely be revealed as the process unfolds and more systems are submitted for certification. In recognition of this early stage for the 2005 VVSG implementation, other questions should be asked:

Is the new draft intended to address perceived shortcomings within the 2005 VVSG?

Is the new draft intended to replace the 2005 VVSG?

Is the new draft intended to run concurrently with the 2005 version?

The answers to these questions will provide valuable instruction during the examination and public comment period. After all, it should be clearly stated that the newest draft of the VVSG is very aggressive in its prescriptions for voting system designs rather than establishing performance protocols, as anticipated, for usability and disability access.

Timeline for Implementation

The proposed timeline for the adoption of this latest draft of VVSG provides for two public comment periods and an overall two-year adoption cycle for the inclusion of public comments and testimony. This is the minimum amount of time required given the dramatic changes we are seeing within this iteration. It is likely that our mutual experiences over recent months with the EAC Certification process and the conclusion of certification efforts under the 2002 Standards will provide a greater understanding on how best to implement future iterations of the VVSG. This adoption timetable should provide ample opportunity for all of the stakeholders to provide public comment.

The Council also believes that different versions of the VVSG should run concurrently. The States would be the ones to determine which VVSG version they will require for certification and subsequent use in their State. This would be especially important given the nature of the requirements under the new version of the VVSG and its potential for creating significant equipment replacement costs should a State move to require compliance with these new standards as written.

With that, let me begin detailing some of my initial concerns based upon our initial review of the new VVSG:

Elimination of software dependent voting systems as a classification:

All ETC members currently offer a "software independent voting system" as an auditing mechanism. The current generation of Voter Verifiable Paper Audit Trails (VVPATs) is a response to market demand for this audit method. However, the removal of a software dependent classification within the new VVSG is especially problematic for those States that do not prefer the use of a Voter Verifiable Paper Audit Trail (VVPAT).

The addition of VVPATs to electronic voting systems was spurred through State changes and the responsiveness of voting system manufacturers, not through a federal legislative or administrative process. In fact, the current session of Congress is considering legislation that would mandate this technology for all jurisdictions in a federal election. This legislation has been met with fierce opposition from various stakeholder groups including national associations representing all layers of government in the United States.

The newest iteration of the VVSG would be the farthest reaching in its scope to change voting technology on the user end and represent a significant change for each of the States requiring federal certification of their voting systems. It is conceivable that a State would be forced to incur new expenses for upgrading its systems to accommodate an IVVR, or independent voter-verifiable record. In many ways, this is the prospect confronting the States as Congress considers an expansive election reform bill. However, this type of requirement within a VVSG may lead to an unintended consequence. A State may choose to withdraw from the EAC-Administered process; thereby, weakening the overall intent of the Help America Vote Act and the work that has led us this far to reach a common standard for voting system performance.

In order to balance the interests of all stakeholders, the ETC would recommend the use of multiple approaches for voting system certification, for both software independent and software dependent systems as recognized within the 2005 VVSG. Those States that choose to require an IVVR, or VVPAT, would be free to do so under a software independent certification model and those operating without an IVVR would be free to choose a software dependent certification model.

Software dependence should not be seen as a pejorative. The use of software alone should not be frowned upon given the robust development and application of procedures such as pre- and post election hash code testing, the escrow of source code for use by appropriate State officials, the conduct of pre- and post- logic and accuracy testing, the conduct of parallel testing ,and post-election audits. In their entirety, these procedures can easily mitigate both perceived and real threats.

In lieu of a software dependent classification for voting systems, the initial draft of the VVSG would require a separate panel review for systems submitted under the innovation class subset. This process is currently undefined and I would recommend that the EAC move cautiously into an area that is not currently authorized or would be administered through an undefined review process. It is possible for the EAC to accomplish its goal of providing an avenue for future voting system innovations through the classifications of software dependency and software independency without creating an additional review process.

Establishment of Open-Ended Vulnerability Testing

Section 5.4 of the new draft of the VVSG provides for Open-Ended Vulnerability Testing (OEVT). As drafted, the Open-Ended Vulnerability Testing component is currently structured in such a way that a system would be subject to a "failing" grade. This brings into question the purpose of the OEVT. Is the purpose of the testing to improve voting systems, or is it intended to pass judgment upon them? Every ETC member uses the common practice of developing threat models against which it designs a secure voting system. Many invite third parties to perform vulnerability testing in order to challenge the systems and to provide feedback for improved security techniques. So, the concept of vulnerability testing is embraced by all Council members, and we have no objection to its inclusion as a part of the testing process.

However, there is a public policy question that must be answered before any vulnerability testing can be considered definitive. What is the threat model? Voting system manufacturers have been forced to guess at the answers, and have been second-guessed if the reviewer endorses a different threat model. For example, in the well-publicized Top-to-Bottom Review of voting systems in California, it became evident that the review team threat model assumed that there is no trusted public official, no trusted polling location, no trusted poll worker, and no trusted voter. This is a very different threat model from that of previous voting system guidelines and, accordingly, requires a much higher standard for security.

Until a threat model and key aspects of the operational environment can be agreed upon by the election community, there will be no agreement on what is reasonable or acceptable security. These key aspects of the operational environment should be applied equally to all types of voting methods as well, including electronic, optical scan and paper ballots. Electronic voting systems have been typically held to an absolute standard while the vulnerabilities of other voting methods have been ignored. Without some agreed-to parameters surrounding security, the security debate will continue without resolution.

With respect to the pass/fail system proposed under the OEVT plan, what would a "failing" mark mean for the manufacturer and its customers (i.e., voters and election officials)? What happens if a 2005 VVSG compliant system has been sold in various markets and when 2009 VVSG compliance is sought, due to a state mandated change, the product or a system component fails?

Our biggest concern about an independent review, as proposed under the OEVT, is the potential lack of a sufficient amount of time to address any issue discovered prior to public disclosure. If the manufacturer is reviewed without the opportunity to address identified issues, this jeopardizes the integrity of our product, is a disservice to our customers and threatens public confidence. We understand the public disclosure is the leverage historically used to motivate a manufacturer to correct a problem, but it must be used responsibly to conduct open inspections in a cooperative manner. Up to this point, the VSTLs and the ITAs before them worked in a collaborative fashion with vendors to evolve better products. Accordingly, we urge you to clarify the role of the VSTLs to call "balls and strikes", not winners and losers.

Usability Performance Benchmarks

The ETC applauds the makeup and structure of the usability performance benchmarks and the use of the Voting Performance Protocol as detailed in the new draft of the VVSG. It is important for the industry to have clear benchmarks for voting system usability. Most of the performance metrics as outlined in the new VVSG reflect the clear deliverables expected from the 2005 VVSG. However, great care should be exercised to make sure that the benchmarks measured are objective and relevant to the certification process.

One usability factor that appears to be subjective is the measure of "Average Voter Confidence". The "Average Voter Confidence" metric is not included within the Voting Performance Protocol as a measurement of the usability of a voting system. Rather, it appears that the Average Voter Confidence is a measurement of a perception of a participant during the usability testing. Perceptual measurements are not objective, cannot be replicated and should not be included as a documented metric.

The area of usability is again one where the ETC members are concerned about prescriptive techniques to achieve outcomes. The VVSG should state the desired outcome and leave it to the vendor to achieve the objective. This promotes competition and innovation born from competition.

Incursion of VVSG into Election Administration Procedures

One aspect of the new version of the VVSG which will receive a lot of attention from the elections community is the incursion of its requirements directly into election administration procedures. Although election administration practices rest typically with state and local election officials, it appears that the new draft of the VVSG is venturing into these areas for the first time.

One example of this incursion into election administration practices is the discussion in Section 4 regarding the use of poll book auditing. From an election official standpoint, the use of poll book auditing is not a reflection of voting system performance. I believe every election official understands the challenges with conducting elections in one polling place using multiple ballot styles or conducting early voting and training poll workers on the identification and distribution of the correct ballot to the voter. Poll book auditing is used to audit the records provided by precinct election officials to verify the total number of votes cast and serve as an audit of the election, but not the performance of the voting system.

In fact, the use of various reports available through the tabulation software very often reveals whether an administrative error was made in the issuance of the correct ballot in a particular precinct or if other errors occurred in the assignment of an incorrect ballot style to a precinct. In this respect, it is the voting system and its associated reporting tabulation reporting software which assists in the poll book auditing process.

Another example of the incursion of the VVSG into the area of election administration practices and policies is the description of observational testing and procedures for the protection of voter privacy when using a voting system with a VVPAT. Each State is well-versed with the need to protect ballot secrecy as required under its own laws or administrative procedures. Each State is better suited to

determine how each VVPAT system will be used to protect voter privacy and the VSTL is not qualified to make a determination as to the compliance of a VVPAT system and provisions for voter privacy.

The notion that particular systems with a VVPAT may violate the secrecy of the ballot is easily mitigated through the adoption of State administrative procedures. Discussion of this concern within the VVSG is legitimate, but we believe great care should be exercised to limit the scope of the VVSG to matters relevant to the performance of the voting systems and not election administration procedures.

Again, this type of standard holds electronic voting to a different standard than other types of voting. For example, absentee by mail ballots rely exclusively on procedures to protect the secrecy of the ballot. Yet, somehow this is not adequate for an electronic system. The double standard does not serve the public well, and certainly makes it more difficult for a voting system vendor to determine what standards apply to which voting process.

Other areas of the new VVSG that should be examined for their direct impact on election administration practices include provisions for physical security requirements, the scanning of election management systems for malware by local election officials on a 24 hour basis, the prohibition of the use of electronic registration systems for the verification of voters during early voting or in the use of voting centers. All of these issues have been touched upon within the new draft of the VVSG, but more time will be necessary to review the full scope of these requirements contained within the new VVSG. In particular, the question should be asked, “Are provisions of the new VVSG beyond the scope of voting system standards?”

Financial Impacts of the new VVSG

Up to this point, the election community has been served by vendors who have put at risk their own capital to develop voting systems. This risk is balanced by the prospect of reward through successful sales of equipment. In every assessment, the vendor must necessarily ask itself “will the customer buy it”? After all, jurisdictions do not have unlimited funds.

We urge the EAC to recognize the reality of the marketplace. Will you assume that jurisdictions have unlimited budgets and will purchase the “perfect’ voting system no matter the cost? Will the EAC assume that Congress or the States will fund purchases of new technology no matter the cost? Or will the EAC assume that there is a fiscal reality at work that will require jurisdictions to make cost-benefit decisions? What would the increased costs due to the willingness of States to remain within the voluntary model of the VVSG?

As an industry, we are extremely concerned that new VVSG will drive the cost of voting systems beyond the ability of our customers to buy them. Nothing could be more deflating than building a perfect system that nobody can afford forcing customers to cling to obsolete legacy equipment. This is certainly a potential outcome if there is no consideration of market forces in the development of the VVSG.

Conclusion

The ETC recognizes, probably more than most, just how difficult it has been for the EAC to develop a "stop-start" process for the EAC administered certification. We would like to reiterate our continuing commitment to work with you for the betterment of voting technology and the experiences of election officials and voters alike. We are in the process of embarking upon the 2005 VVSG soon and I can only estimate that more questions will follow as to the meaning of the 2005 VVSG, interpretations that will be required, and areas for possible clarification exposed. Given the fact that the 2005 VVSG remains in its infancy, it may become necessary to provide flexibility within your implementation process to allow for further discussion of the 2005 VVSG as voting system manufacturers and the EAC recognize potential shortcomings.

In our estimation, the overall development of the VVSG has been greatly weakened through the lack industry representation. Just as the EAC has matured over the years, we are witnessing the evolution of the certification process. There is no doubt that the state of voting technology is much better; however, we must take great care to learn from other industries to make sure that innovation and market viability are not curbed through the adoption of overly prescriptive design requirements. Other agencies such as the Federal Aviation Administration and Federal Communications Commission have industry representatives as part of their regulatory processes and this direct involvement provides greater balance of representation from all of the affected stakeholders, provided it is done in a responsible fashion. The ETC is concerned that while the VVSG are labeled "voluntary", they are de facto regulations. Accordingly, the ETC members believe it is critical that they be afforded an opportunity to participate in the process in the same manner that other regulated businesses have access in their respective regulated industries.

In its entirety, the ETC believes that the VVSG should not prescribe design standards, only performance standards. The adoption of performance standards will provide an avenue for further innovation. Permitting future innovation and the ability for platforms to distinguish themselves with superior design will benefit the marketplace by allowing jurisdictions to choose from a number of voting systems and determine those that best meet the needs of their voters. The application of restrictive design specifications will limit the development of innovative technologies and may very well lead to a less competitive marketplace in both the innovation and the quantity of solutions offered. In the coming months, the Council will work diligently to specifically identify those requirements that move beyond performance measurements in the arena of design specifications.

On behalf of the Election Technology Council and its members, we look forward to working with you in the coming months to provide more public comment on the newest draft of theVVSG and we look forward to future opportunities to serve as a resource to the United States Election Assistance Commission.